

**CHAPTER 69-05.2-20**  
**PERFORMANCE STANDARDS - DAMS AND EMBANKMENTS CONSTRUCTED**  
**OF OR IMPOUNDING COAL PROCESSING WASTE**

Section

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**69-05.2-20-01. Performance standards - Dams and embankments constructed of or impounding coal processing waste - General requirements.**

Dams and embankments constructed of or impounding coal processing waste as a temporary disposal method must comply with this chapter and permanent disposal of the waste must comply with section 69-05.2-19-02. Waste may not be used to construct the dams and embankments unless it has been demonstrated to the commission that the stability of the structure conforms to the requirements of subsection 1 of section 69-05.2-20-03. It must also be demonstrated that the use of waste material will not have a detrimental effect on downstream water quality or the environment due to toxic seepage through the dam or embankment. All demonstrations must be approved by the commission. Prior to commission approval, the state engineer will have an opportunity to review the plans and design of the structures.

**History:** Effective August 1, 1980; amended effective May 1, 1990.

**General Authority:** NDCC 38-14.1-03

**Law Implemented:** NDCC 38-14.1-24, 38-14.1-25

**69-05.2-20-02. Performance standards - Dams and embankments constructed of or impounding coal processing waste - Site preparation.** Before coal processing waste is placed at a dam or embankment site:

1. All vegetative material must be cleared from the site, and suitable plant growth material removed and stockpiled according to this article; and
2. Surface drainage that may cause erosion to the embankment area or the embankment features, whether during construction or after completion, must be diverted by diversion ditches that comply with the requirements of section 69-05.2-16-06. Adequate outlets for discharge from these diversions must comply with section 69-05.2-16-10. Diversions to carry drainage from the upstream area away from the impoundment area and runoff from the surface of the impoundment

facility must be designed to carry the peak runoff from a one hundred-year, six-hour precipitation event. The diversion must be maintained to prevent blockage, and the discharge must comply with section 69-05.2-16-10. Sediment control measures must be provided at the discharge of each diversion ditch before entry into natural watercourses according to chapter 69-05.2-16.

**History:** Effective August 1, 1980; amended effective May 1, 1990.

**General Authority:** NDCC 38-14.1-03

**Law Implemented:** NDCC 38-14.1-24, 38-14.1-25

**69-05.2-20-03. Performance standards - Dams and embankments constructed of or impounding coal processing waste - Design and construction.**

1. The design of each dam and embankment constructed of coal processing waste or intended to impound the waste must comply with subsections 9 through 21 of section 69-05.2-16-09, modified as follows:
  - a. The design freeboard between the lowest point on the embankment crest and the maximum water elevation must be at least three feet [91.44 centimeters].
  - b. The dam and embankment must have a minimum safety factor of 1.5 for a normal pool with steady seepage saturation conditions, and the seismic safety factor must be at least 1.2.
  - c. The dam or embankment foundation and abutments must be designed to be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing must be performed to determine the safety factors of the dam or embankment for all loading conditions appearing in subdivision b and for all increments of construction.
  - d. Each structure that meets the criteria of 30 CFR 77.216(a) must have sufficient spillway capacity to safely pass the probable maximum precipitation of a six-hour precipitation event, or greater event specified by the commission, when the impoundment is at high water elevation.
2. Spillways and outlet works must be designed to provide adequate protection against erosion and corrosion. Inlets must be protected against blockage.
3. Dams or embankments constructed of or impounding waste materials must be designed so that at least ninety percent of the water stored

during the design precipitation event can be removed within a ten-day period.

4. For dams or embankments constructed of or impounding waste materials, at least ninety percent of the water stored during the design precipitation event must be removed within the ten-day period following the event.

**History:** Effective August 1, 1980; amended effective May 1, 1990; May 1, 1992; June 1, 1994.

**General Authority:** NDCC 38-14.1-03

**Law Implemented:** NDCC 38-14.1-24, 38-14.1-25

